

Title (en)

Magnetic resonance imaging apparatus comprising a communication system

Title (de)

Apparat zur Bilderzeugung mittels magnetischer Resonanz welcher ein Kommunikationssystem beinhaltet

Title (fr)

Appareil d'imagerie par résonnance magnétique comprenant un système de communication

Publication

EP 0655730 B1 20000809 (EN)

Application

EP 94203395 A 19941122

Priority

BE 9301319 A 19931130

Abstract (en)

[origin: EP0655730A1] The apparatus comprises inter alia a gradient coil system (3) for generating gradient fields in a measuring space (35), a power supply source (7) for the gradient coils, and a communication system for transferring acoustic information from at least a first region (39) in which the level of sound generated by the gradient coils (3) (gradient noise) is comparatively high to at least a second region (41). The communication system comprises means (55) for generating a reference signal which is dependent on the gradient noise, a microphone (43) which is arranged in the first region (39) so as to pick up a mixture of sound information and gradient noise, and a sound reproduction device (65, 67), at least a part of which is situated in the second region (41). The communication system also comprises a noise suppression device, comprising a filter device (61) for converting the reference signal into a signal which corresponds substantially to the gradient noise at the area of the microphone (43), and a summing device (63) for adding the output signal of the filter device to the output signal of the microphone in phase opposition, the output of the summing device being connected to the sound reproduction device. Between the microphone (43) and the summing device (63) there are inserted signal delay means (53) which delay the microphone signal for a predetermined period of time. The sound reproduction device (65, 67) is provided with means (69) for attenuating sound which does not originate from the sound reproduction device. <IMAGE>

IPC 1-7

G10K 11/178

IPC 8 full level

A61B 5/055 (2006.01); **G01R 33/48** (2006.01); **G10K 11/178** (2006.01)

CPC (source: EP US)

G10K 11/17857 (2017.12 - EP US); **G10K 11/17861** (2017.12 - EP US); **G10K 11/17873** (2017.12 - EP US); **G10K 11/17885** (2017.12 - EP US); **G10K 2210/108** (2013.01 - EP US); **G10K 2210/1081** (2013.01 - EP US)

Cited by

DE102010041146A1; WO2008062275A1; DE10343006A1; DE10018032C1; DE10018033C1; CN103654788A; EP2710954A3; US8085942B2; WO2012038168A1; US9250304B2

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

EP 0655730 A1 19950531; **EP 0655730 B1 20000809**; BE 1007806 A3 19951024; DE 69425475 D1 20000914; DE 69425475 T2 20010419; JP H07194578 A 19950801; US 5552708 A 19960903

DOCDB simple family (application)

EP 94203395 A 19941122; BE 9301319 A 19931130; DE 69425475 T 19941122; JP 29135694 A 19941125; US 34701294 A 19941130